

Claims

1.-6. (cancelled)

7. (new) A method for managing resources when establishing a substitute path from a source node to a terminal node in a transparently switchable network for signal transmission, wherein the source node and the terminal node are connected to a plurality of network nodes having interposed link sections, the method comprising:

providing switching devices in the network nodes, in the source nodes, and in the terminal nodes for switching a plurality of paths for signal transmission between the source node and the terminal node;

utilizing a first network resource controlled by the source node for the signal transmission and for switching of the link sections within one of the paths, wherein the signal transmission is interrupted upon occurrence of an imperfection in the one path and an error message is transmitted from a network node to the source node, the network node arranged upstream of the imperfection relative to a signal transmission direction;

determining, upon receipt of the error message, by the source node a substitute path for rerouting the signal transmission around the imperfection using a control signal generated by the source node; and

establishing a second resource for switching the link sections of the substitute path such that only such link sections disposed in the rerouting and in need of reswitching are newly switched by the network nodes included in the rerouting, wherein the second resource is established using the control signal and the first resource, and wherein switched link sections common to the path and the substitute path are maintained.

8. (new) The method according to Claim 7, wherein the maintained switched link sections commonly assigned to the original path and to the substitute path and the necessary switching of link sections of the rerouting and the release of the link sections from the original path no longer used in the substitute path are controlled by setting

up the second resource from an updating of the first resource at the respective network nodes.

9. (new) The method according to Claim 7, wherein the link sections disposed in the rerouting are switched with a minimum number of new switchings by the network nodes.

10. (new) The method according to Claim 8, wherein the link sections disposed in the rerouting are switched with a minimum number of new switchings by the network nodes.

11. (new) The method according to Claim 7, wherein, when there is a plurality of imperfections in the path, firstly the imperfection nearest to the source node is rerouted around with a first substitute path and thereafter the other imperfections in succession upstream are rerouted around with further substitute paths, wherein the resource of one of the substitute paths to be established is updated from the previous established resource of the path or substitute path, and wherein

switchings of identically used link sections between the original path and the respective substitute paths are maintained.

12. (new) The method according to Claim 8, wherein, when there is a plurality of imperfections in the path, firstly the imperfection nearest to the source node is rerouted around with a first substitute path and thereafter the other imperfections in succession upstream are rerouted around with further substitute paths, wherein the resource of one of the substitute paths to be established is updated from the previous established resource of the path or substitute path, and wherein

switchings of identically used link sections between the original path and the respective substitute paths are maintained.

13. (new) The method according to Claim 9, wherein, when there is a plurality of imperfections in the path, firstly the imperfection nearest to the source node is rerouted around with a first substitute path and thereafter the other imperfections in succession upstream are rerouted around with further substitute paths, wherein

the resource of one of the substitute paths to be established is updated from the previous established resource of the path or substitute path, and wherein

switchings of identically used link sections between the original path and the respective substitute paths are maintained.

14. (new) The method according to Claim 10, wherein, when there is a plurality of imperfections in the path, firstly the imperfection nearest to the source node is rerouted around with a first substitute path and thereafter the other imperfections in succession upstream are rerouted around with further substitute paths, wherein

the resource of one of the substitute paths to be established is updated from the previous established resource of the path or substitute path, and wherein

switchings of identically used link sections between the original path and the respective substitute paths are maintained.

15. (new) The method according to Claim 7, wherein at each network node switching between channels is carried out for the transmission of signals with differing granularities.

16. (new) The method according to Claim 8, wherein at each network node switching between channels is carried out for the transmission of signals with differing granularities.

17. (new) The method according to Claim 9, wherein at each network node switching between channels is carried out for the transmission of signals with differing granularities.

18. (new) The method according to Claim 10, wherein at each network node switching between channels is carried out for the transmission of signals with differing granularities.

19. (new) The method according to Claim 11, wherein at each network node switching between channels is carried out for the transmission of signals with differing granularities.

20. (new) The method according to Claim 12, wherein at each network node switching between channels is carried out for the transmission of signals with differing granularities.

21. (new) The method according to Claim 13, wherein at each network node switching between channels is carried out for the transmission of signals with differing granularities.

22. (new) The method according to Claim 14, wherein at each network node switching between channels is carried out for the transmission of signals with differing granularities.